

REMARKS

Claims 1-3, 13, 25, 27 and 30 are currently amended.

Claims 4, 6-8, 16-19, 21-22, 26, 28, 31 and 32 are canceled.

Claims 5, 9-12, 14, 15, 20, 23-25, 29, 33 and 34 were previously presented.

Claims 35-48 are withdrawn.

Amendments to the claims are supported in the specification on page 13, lines 5-20.

The Examiner has objected to the drawings under 37 CFR 1.83(a) stating that the drawings must show every feature of the invention specified in the claims. The Examiner has stated that “matched mold halves” are not shown. No new matter should be entered.

Applicant’s invention is a method, not an apparatus, and the term “matched mold halves” is a term of the art, and is well know. For instance, in US Patent 5,376,322 which issued Dec. 27, 1994, the patentee uses “matched mold halves” to make suitcases using a compression molding process. Figure FIG. 7a and 7b illustrate “matched mold halves”, and the description in col. 7, lines 10-15 describe their use. Applicant will amend the specification referencing this source, but in light of the fact that Applicant is not claiming the apparatus, this hardly seems necessary. 37 CFR 1.83(b) states that “Drawings *may* include illustrations which facilitate an understanding of the invention (for example, flowsheets in cases of processes, and diagrammatic views”. The verbal explanation given on page 13, lines 1-20 of the specification appears adequate to understand the process. All claims referring to an apparatus were previously determined to be in another class, and

have been withdrawn. The objection appears to be unnecessarily arbitrary in light of 37 CFR 1.83(b), and the past prosecution history supports this, as heretofore no objection had been issued.

Claims 23-25, 27, and 29 stand rejected by the Examiner under 35 U.S.C. 12(b) as being indefinite, because claim 1 claims a laminate “consisting” of particular parts. No additional parts can be added.

Applicant has amended claim 1, changing “consisting” to “comprising”. The rejection is respectfully overcome.

The Examiner has rejected claims 1, 5, 9-12 and 20 under 35 U.S.C. 103(a) as being unpatentable over Holtrop (U.S. Patent 4,529,641) in view of Byma (U.S. Patent 6322658), Breezer (U.S. Patent 5,635,129), Steward (U.S. Patent 4211590), and Haardt (U.S. Patent 5,180,628).

With regards to claim 1, the Examiner states that Holtrop teaches “transferring the compression molded first part to a second mold and positioning in half of the thermoforming s vacuum thermoforming mold (4:41-5:28).

The Examiner is in error. Holtrop doesn't teach forming a compression molded part in the identified step. Holtrop teaches in col. 3, line 47- col. 4, line 32 that a fabric is impregnated in a vat of solution and then bonded to one surface of the foamed

thermoplastic material using pressure and heat treatment laminating. Alternatively, the Holtrop laminate is formed by applying an acrylic polymer emulsion to the foamed sheet, and then laminating in the fabric. Lamination is not molding. The resulting Holtrop laminate is shown in FIG. 1. It is not a molded part, but a laminate, which is generally made using a web converting process with rolls having a nip (as described by Holtrop). In any case, Holtrop never teaches compression molding to make a part. Holtrop's uses a pressurized gas thermoforming process (col. 4, line 51 to col. 5, line 2) to make the twin sheet having a three-dimensional shape. Applicant has amended claim 1 to read on a compression molding process that employs a thermoplastic composite and a fabric to make a molded covered first headliner part. After changing out the molds for vacuum thermoforming, the next step is to form a vacuum molded second headliner part. Again, Holtrop differs as he teaches a pressurized gas thermoforming process, not a vacuum thermoforming process. The processes are only similar in that both employ compression molding to form a unified part. Applicant's unified part is a headliner. Holtrop's material can be thermoformed into a headliner (col. 5, lines 22-24). In summary, Holtrop teaches a laminate, and does not teach compression molding to form a headliner part that when unified creates at least one interior compartment. Holtrop's laminate doesn't have a 3D shape until after the two laminates are pressure thermoformed and fused. The Examiner has stated that he submits that it would be prima facie obvious to provide flat plates, which would cause Holtrop's lamination (4:16-24). In essence, by this statement the Examiner is admitting that the lamination taught by Holtrop is not compression molding, using a technique not taught by Holtrop. Furthermore, the Examiner has stepped beyond the role of Examiner, and has taken on the role of inventor, even going so far as asserting

knowledge beyond the scope of Holtrop. The Examiner has done this without Official Notice. Applicant has previously addressed an Official Notice in the first office action, which resulted in the Examiner retracting his Official Notice, as he overlooked a crucial functional component. In that instance, the Examiner stated that a hollow element was prima facie obvious as providing head impact, and gave as an example a tennis shoe having a pump up bladder. As was pointed out in the Applicant's response, the instant invention does not have an inflated bladder, and therefore the fact that a molded piece of reinforced plastic does have HIC properties is part of what is novel. Furthermore, it does not follow that just because a component is hollow it doesn't necessarily equate to having head impact properties, and the references to Breezer support that a hollow compartment can be used to reinforce a product. **The most blatant difference between Applicant's claim 1 and Holtrop's method** is the sequence of the molding process. In Holtrop, the thermoforming mold is closed adhering the adhesive zones 2, 3 and 4 of the top and bottom laminate, and then pressurizing the mold with air. In Applicant's invention the first and second parts are formed and then the mold halves are closed fusing the first and second parts into a unified part. Holtrop can't change his sequence, because then he can't pressurize the mold until it is closed. Following Holtrop's teachings, the Applicant's step of vacuum forming would take place after the sheets were already fused. This is impossible, as both sheets would be pulled down into the mold cavity with the highest vacuum and /or the most flexible sheet. Furthermore, Applicant has claimed a process having a sequence that is not taught by Holtrop, and if Holtrop's process were followed the Applicant's method would only produce landfill product. The rejection to claim 1 is respectfully traversed.

Regarding claim 5, Examiner states that Holtrop teaches a second headliner part that is comprised of a fusing adhesive.

Applicant claims in claim 5 that only the second part has an adhesive coating. Holtrop teaches that both laminates have adhesive coatings. In light of the dependency on claim 1 and the arguments, the rejection to claim 5 is respectfully overcome.

Regarding claim 9, Examiner states Holtrop's cloth and fabric are equivalent to Applicant's felt.

Applicant claims in claim 9 a fabric, a film, or a felt, or a fur, or a leather. The cloth and fabric may be considered a felt, but that still leaves fur, leather and film. The Examiner failed to state that these would be allowable if written in dependent form with all the limitations of claim 1. In light of the dependency on claim 1 and the arguments, the rejection to claim 9 is respectfully overcome.

Regarding claim 10, Examiner states Holtrop's teaches an underlying layer of foam.

Applicant claims in claim 10 a layer of foam, but not on both sides, just under the fabric side. Holtrop has foam under both sides, as both sides have a layer of cloth. In

light of the dependency on claim 1 and the arguments, the rejection to claim 10 is respectfully overcome.

Regarding claim 12, Examiner states Holtrop's teaches adhesives on the inner surfaces of headliner parts.

Applicant claims in claim 12, which is dependent on claim 1, an adhesive on a thermoplastic sheet that is a thermoplastic composite. Holtrop teaches a foam, not a thermoplastic composite. In light of the dependency on claim 1 and the arguments, the rejection to claim 12 is respectfully overcome.

Regarding claim 20, Examiner states Holtrop's teaches a headliner.

Applicant asserts Examiner is in error. Holtrop's teaches a material that can be twin sheet thermoformed into a headliner (col. 5, lines 22-24). Applicant's process produces a product, as claimed in claim 20 a product that is a headliner, not a material that is formed into a headliner.

Regarding claims 23 and 24, Examiner states Holtrop's teaches compression forming laminates.

Applicant agrees Holtrop teaches that a laminate is formed using heat and compression, where the pressure would be very light. The pressure is however not from compression molding, because Holtrop is using a foam which can only withstand very little heat and pressure (it is made of polystyrene – col. 1, line 66), FIG. 1 clearly shows a flat sheet, and FIG. 2 clearly shows a slightly deformed flat sheet, and nowhere does Holtrop mention compression molding to laminate the cloth to the foam. Examiner does

not seriously appear to be attempting to reaching a census of what is patentable, as he continues to speculate about how Holtrop could use flat plates to form the laminate, and there is no practical basis why Holtrop would use this method, there is no teaching in the patent for this process in the patent, and what is taught (i.e. a “set of rolls” in col. 3, line 51) has been intransigently ignored in favor of this hypothetical scenario of flat plates. Claims 23 and 24 depend from claim 1, and derive their novelty from the parent claim.

Claims 25 and 27 stand rejected, as Holtrop has a scrim on both sides.

Claims 25 and 27 depend from claim 13 (currently amended), which is an independent claim, where both the first part and second part are compression molded with a fabric and a scrim respectively. As in claim 1, fusing the parts is the last step, and this is in stark contrast to Holtrop where fusion precedes molding. The claims should be allowed by their nature of depending from claim 13. Examiner cites Breezer, which teaches that vacuum forming precedes adhering the two laminates. In claim 13, vacuum thermoforming is not claimed, so Breezer would not appear to be relevant.

Claim 29 stands rejected as obvious in light in light of Holtrop.

Applicant asserts, by nature of its dependency on claim 13, claim 29 should be allowed.

Claims 33 and 34 stand rejected in light of Stewart.

Applicant's claims 33 and 34 derive their novelty from parent claim 13.

The Examiner has additionally rejected claims 2 and 3 under 35 U.S.C. 103(a) as being unpatentable over Holtrop (U.S. Patent 4,529,641) in view of Byma (U.S. Patent

6322658), Breezer (U.S. Patent 5,635,129), Steward (U.S. Patent 4211590), Haardt (U.S. Patent 5,180,628), and van Damme et al. (Reinforced Plastics, July/August 1999, pages 48-50).

Applicant has amended claims 2 and 3, rolling the composition into claim 1. The flexural modulus of about 900 MPa to about 1800 MPa as determined by ASTM D792 is left respectfully in claims 2 and 3. The Examiner admits that both van Damme and Haardt are silent on the flexural modulus of about 900 MPa to about 1800 MPa. The van Damme reference appears to be more of a "What if scenario", speculating on all the possible applications for various composites. The van Damme reference is certainly not enabling. Claims 2 and 3 depend from claim 1. The Superlite graphs on page 50 evidently get harder with more glass, but there is no teaching of what range is desirable for head impact cushioning (HIC).

The Examiner has rejected claims 13-15 under 35 U.S.C. 103(a) as being unpatentable over Holtrop (U.S. Patent 4,529,641) in view of Byma (U.S. Patent 6322658), Breezer (U.S. Patent 5,635,129), Steward (U.S. Patent 4211590), and Haardt (U.S. Patent 5,180,628).

Applicant has amended claim 13. The amendment is supported on page 13 of the specification. Both the first part and second part are compression molded with a fabric and a scrim respectively. Also, the method includes the step of removing the matched mold halves and setting up the mold for vacuum thermoforming with a lower half mold and an opposing half mold, even though vacuum thermoforming may not even be necessary, but the matched mold halves would interfere with fusing the two parts to form a unified part. The cited prior art does not teach two compression molding steps, and a fusing step.

Claims 14 and 15 are dependent claims depending from claim 13, and they derive their novelty from the parent claim.

Claim 29 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Holtrop in view of Byma (USPN 6,322,658 B1), Steward (USPN 4,211,590), Breezer (USPN 5,635,129), Haardt (USPN 5,180,628), Corpe (USPN 5,795,015), Juriga (USPN 5,549,776), Timothy, and Strapazzini (USPN 5,529,742).

Applicant's claim 29, depending from claim 1, differs from Strapazzini in that Strapazzini (2:15-18) teaches “integral portions that are configured to receive or mount exterior parts or trim elements”. Strapazzini does not teach creating a headliner having an interior compartment with “wiring, duct work and reinforcing components, and acoustic enhancing materials”. The last step in the invented process is fusing the two parts. This enables wires, etc to be pre-positioned. With Holtrop, fusing the parts is the first step, prior to forming any interior compartment. It is not possible to practice Holtrop and still put components in the headliner, and there is no interior compartment that is accessible. The rejection is respectfully overcome.

Claim 30 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Holtrop in view of Byma (USPN 6,322,658 B1), Steward (USPN 4,211,590), Breezer (USPN 5,635,129), Haardt (USPN 5,180,628), Timothy (USPN 5,775,726), Juriga (USPN 5,549,776), and Corpe (USPN 5,795,015). Corpe teaches (6:44-49) water jet cutting.

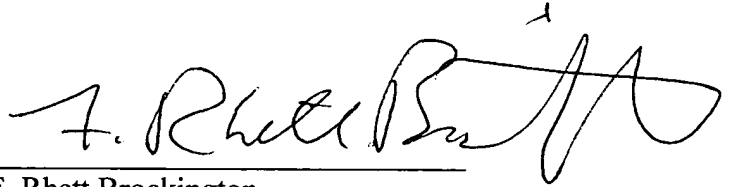
Claim 30 has been amended now deleting the reference to water jet cutting. Corpe does not teach secondary punching, laser, knife trimming, and vibration, ultrasonic and hot plate welding. Additionally, with the invented process, as first parts are molded and collected they can be trimmed and finished before being fused. This is not possible with the Holtrop process. The rejection is respectfully overcome.

CONCLUSION

Applicant would like to thank Examiner for the attention and consideration accorded the present Application. Should Examiner determine that any further action is necessary to place the Application in condition for allowance, Examiner is encouraged to contact undersigned representative at the telephone number, facsimile number, address, or email address provided below. It is not believed that any fees for additional claims, extensions of time, or the like are required beyond those that may otherwise be indicated in the documents accompanying this paper. However, if such additional fees are required, Examiner is encouraged to notify undersigned at Examiner's earliest convenience.

Respectfully submitted,

Date: May 5, 2006

A handwritten signature in black ink, appearing to read 'F. Rhett Brockington', with a stylized flourish at the end.

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